DEPARTMENT OF RECONSTRUCTION AND SUPPLY

Production of Basic and Building Materials in Canada

OUTLOOK 1948

Presented to Parliament by
The Right Honourable C. D. Howe, M.P.,
Minister of Reconstruction
and Supply

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PREFACE

Since the end of the war, the flow of building materials, machinery and other goods of a capital nature has not been adequate to build and equip the industrial plants and commercial premises, the public buildings and public works and the homes that business enterprises, governments and private citizens collectively wish to provide. One of the most important factors limiting the production of capital goods has been the shortage of many of the basic materials out of which they are made.

For the second year in succession, therefore, the outlook for the production and supply of basic and building materials is being surveyed[1]. A companion study reports on the probable level of demand for capital goods in 1948 and attempts to estimate the relationship between demand and supply[2]. The two reports, together, show that the demand for and the supply of basic and building materials should be at higher levels and that full realization of investment plans, in money terms, should be possible.

This report covers nine basic materials and 30 building materials that are or have been recently in short supply. It is based on the production intentions of producers for the year 1948. If these intentions are realized, the production of only one of the nine basic materials will rise materially above the 1947 level, while increases of from 10 to 50 per cent will be achieved in one-third of the building materials and smaller or no increases in the remainder.

Among Government agencies that contributed factual information to the preparation of this report were the Dominion Bureau of Statistics, Dominion Coal Board, Department of Trade and Commerce, and, in the Department of Reconstruction and Supply, the Steel and Timber Controllers and the Co-ordinator of Building Materials. The report was prepared by Mr. A. S. Duncan, assisted by Mr. T. R. Vout, of the Economic Research Branch, Department of Reconstruction and Supply.

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OTTAWA,
MARCH, 1948.

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(1) The first survey was *Production of Basic and Building Materials in Canada, Outlook 1947* (Department of Reconstruction and Supply, Ottawa, March, 1947). The report will be identified in this publication as *Outlook 1947*.
(2) *Private and Public Investment in Canada, Outlook 1948* (Department of Reconstruction and Supply, Ottawa, March, 1948). The companion study to *Outlook 1947* is *Forecast of 1947 Investment by Canadian Business* (Department of Reconstruction and Supply, Ottawa, March, 1947).

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SECTION I.—PRODUCTION AND SUPPLY OF BASIC AND BUILDING MATERIALS, 1946–47

Since the end of the war, business enterprises have been modernizing and expanding production facilities, governments have been improving and adding to public services, and private citizens have been building homes at record or near-record rates[1]. In view of the low rate of investment in durable physical assets in the depression years and the lack of balance of the investment of the war years, a high level of investment has been necessary to provide a firm base for the standard of living of Canadians.

This level of investment has been and still is determined largely by the availability of building materials, machinery and other equipment of a capital nature and of the necessary labour. The production of capital goods, in turn, is often limited by the availability of the basic materials out of which they are made. Consequently, the supply of capital goods and basic materials has a major influence on investment at this time, and on employment and income[2].

This report singles out for examination those basic materials that are important at this time in the making of building materials, machinery and equipment needed in connection with Canada's investment program, and a selected group of the more important building materials that are or have been until recently in short supply.

It should be stressed that there is a major distinction between a statistical review of the Canadian position in respect to basic materials used for capital goods production, and in respect to building materials. In the case of most of the basic materials considered, Canada has either a large export surplus or import requirement. The Canadian statistical position in these cases, including estimated imports or exports, is only a part of the world picture, and the data given here can be taken only as indicative of general trends which are of some significance to the Canadian building materials industry. In the case of the building materials considered, however, the industry is much more closely adjusted to the domestic market and is not, with few exceptions, either an important importer or exporter. Consequently the production intentions of this industry (or broad group of industries), while obviously related to their own expectations of basic material supplies, are of much more direct significance in appraising the possible volume of investment.

Basic materials may be defined as goods that require processing or further adaptation before they become finished products, or that are used up in the production of other goods. Nine basic materials are covered here, namely, lumber, asbestos, gypsum, coal, coke, pig iron, steel ingots, steel castings and copper[3].

Building materials may be defined as goods entering directly into building construction or into the repair and maintenance of buildings and other public and private structures. They include cement and cement products (3 items), clay products (4 items), rock wool products (2 items), gypsum products (3 items), roofing products (2 items), plumbing, heating and electrical equipment (11 items), and other building material products (5 items) [4].

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(1) *Private and Public Investment in Canada, Outlook 1948*, gives details of this investment.

(2) The significance of basic and building materials in the Canadian economy is discussed in *Outlook 1947*, Part I.

(3) *Outlook 1947* included lead, zinc and nickel and did not include coal and coke. The first three were dropped because the domestic consumption of them was such a small proportion of total production as to be largely unaffected by variations in production. The production of lead and zinc decreased by about 10 per cent between 1946 and 1947 while production of nickel increased by more than 20 per cent.

(4) Cast iron water pipe and fittings were added to the list of building materials for this survey. Otherwise the list is the same as that used in *Outlook 1947*.

Basic Materials

The production of the nine basic materials considered in this report was pushed to levels never before attained during the war years (see Table I, Section III). In the latter part of the war and the early part of the transition period, production dropped as war needs slackened and industry paused to convert plant, remobilize manpower and work out a post-war pattern of labour-management relations. In spite of these difficulties, the lowest annual production since 1944 was greater than the highest annual production before the war by approximately 50 per cent in steel ingots, 25 per cent in coke, 15 per cent in pig iron, and 5 per cent in asbestos and steel castings, and below the pre-war high by 5 per cent in lumber, 10 per cent in coal and 40 per cent in copper and gypsum.

Production intentions at the beginning of 1947 indicated a substantial increase in the volume of production of basic materials during the course of the year. These intentions were realized for lumber and gypsum, exceeded for pig iron, copper and asbestos, and not reached in steel ingots and steel castings[1] (see Summary Table 1). For the group of seven basic materials, therefore, it can be said that production intentions were more than realized.

The production attained in 1947 exceeded the 1946 level by about 45 per cent in pig iron and gypsum, 25 per cent in steel ingots and copper, 20 per cent in asbestos, and 5 per cent in lumber and coke. Coal production was off more than 10 per cent owing to a prolonged labour-management dispute in the Maritimes (see Summary Table 1). The 1947 volume of production was such that the output of pig iron, steel ingots, lumber, asbestos and gypsum was running close to or above previous record levels (see Table I, Section III).

SUMMARY TABLE 1—PRODUCTION, 1946, AND ESTIMATED PRODUCTION AND PRODUCTION INTENTIONS, 1947, FOR SELECTED BASIC MATERIALS, CANADA

Type of Material	Unit	1946 Production	1947		Percentage Change Between 1947 Production* and	
			Production Intentions	Production*	1947 Production Intentions	1946 Production
Lumber	Billion Board Feet	4·9*	4·9 to 5·2	5·2	+6·1 to 0·0	+ 6·1
Asbestos	Thousand Tons	558·2	594·0	668·2	+12·5	+19·7
Gypsum†	Million Tons	1·8	2·6	2·6	0·0	+44·4
Coal	Million Tons	17·8	‡	15·9	‡	−10·7
Coke	Million Tons	3·3	‡	3·5	‡	+ 6·1
Pig Iron	Million Tons	1·4	1·9	2·0	+ 5·3	+42·9
Steel Ingots	Million Tons	2·3	3·1	2·9	− 6·5	+26·1
Steel Castings	Thousand Tons	81·2	100·0	90·6	− 9·4	+11·6
Copper	Million Pounds	367·9	450·6	454·5	+ 0·9	+23·5

* Estimated production subject to revision.
† Shipments plus quantity used by producers.
‡ Not available.

Available domestic supply, *i.e.*, production plus imports minus exports[2], improved more than did production between 1946 and 1947 for the nine basic materials as a group. Specifically, the available domestic supply position

[1] Coal and coke were not included in the 1947 survey of production intentions.
[2] In the three years 1945–47, the proportion of Canadian production absorbed by the domestic market was about 5 per cent of asbestos, 25 per cent of gypsum, 40 per cent of copper and 55 per cent of lumber and all but a small proportion of the production of the other five materials. In addition, about 65 per cent of the available domestic supply of coal, 20 per cent of coke (15 per cent in 1947) and 10 per cent of steel castings (30 per cent in 1947) were imported (see Tables I and II, Section III). Although exports and imports of pig iron and steel ingots are small, a considerable quantity of iron ore and scrap and of bars, rods, sheet, plate and skelp are imported and iron ore and some primary steel exported.

improved substantially more than did production in steel castings, copper, coal and gypsum, slightly more in steel ingots and increased by about the same amount as production in pig iron. The level of supply of lumber, asbestos and coke during 1946 and the forepart of 1947 was high enough to satisfy the backlog of domestic demand. There was, therefore, a downward adjustment of the rate of supply of these materials to the level of current demand during 1947 (see Summary Tables 1 and 2).

As a result, in part, of the marked improvement in available domestic supplies in 1947, it was possible to meet most of the increased demand for basic materials for use in making building materials, machinery and other capital goods and also permit a larger flow of these materials to the durable consumer goods industries. In doing this, however, inventories were drawn down in pig iron, steel ingots, copper and gypsum. Stocks of coke also decreased, but this was an adjustment to reduced demand. Lumber stocks at the producer level probably remained unchanged. Only in coal (and probably asbestos, for which stock data are not available) was there a substantial increase in stocks during 1947 (see Table III, Section III).

The most critical shortages of basic materials during 1947 existed in primary iron and steel. The production of pig iron and steel ingots was close to maximum effective furnace capacity. A little more production could have been obtained if more scrap metal and a better grade of scrap metal and coking coal had been available. The shortage of scrap also made it necessary to use a higher proportion of pig iron to maintain steel ingot production, thereby reducing the flow of this material to other uses.

SUMMARY TABLE 2.—AVAILABLE DOMESTIC SUPPLY OF SELECTED BASIC MATERIALS, CANADA, 1946 AND 1947

Type of Material	Unit	Available Domestic Supply*		Percentage Change from 1946
		1946	1947	
Lumber	Billion Board Feet	2·9	2·6	−10·3
Asbestos	Thousand Tons	37·4	31·4	−16·0
Gypsum	Thousand Tons	348·7	659·8	+89·2
Coal	Million Tons	43·0	44·0	+ 2·3
Coke	Million Tons	4·2	3·9	− 7·1
Pig Iron	Million Tons	1·4	2·0	+42·9
Steel Ingots	Million Tons	2·2	2·8	+27·3
Steel Castings	Thousand Tons	78·0	118·4	+51·8
Copper	Million Pounds	129·8	221·3	+70·5

* Production plus imports minus exports.

Building Materials

Production of building materials increased more in 1947 than was expected at the beginning of the year. Production intentions were substantially realized in nine items, exceeded in 15 and not attained in five. The production of one-fifth of the materials was expected to increase by 25 per cent or more, but this increase was exceeded in more than one-third the cases (see Summary Table 3). As a result, the production of 17 of the 21 materials for which production in previous years is known was in excess of previous peaks (see Table V, Section III).

The large increases in production occurred in concrete brick and building blocks, cement pipe of all kinds, vitrified sewer pipe, cast iron soil pipe, bath tubs, non-metallic sheathed cable, common colourless window glass (imports), rock wool batts, gypsum wallboard, lath and plaster, wire nails and spikes and rigid insulating board. Three factors were principally responsible for increased production. A strong demand encouraged the extension of some plant facilities

SUMMARY TABLE 3.—PRODUCTION, 1946, AND ESTIMATED PRODUCTION AND PRODUCTION INTENTIONS, 1947, CANADA, FOR SELECTED BUILDING MATERIALS

Type of Material	Unit	1946 Production	1947		Percentage Change Between 1947 Production and	
			Production Intentions	Production	1947 Production Intentions	1946 Production
Cement and Cement Products—						
Cement	Million Barrels	10·7	11·7	12·1	+ 3·4	+13·1
Concrete Brick and Building Blocks	Million Pieces	30·1*	34·3	51·9*	+51·3	+72·4
Cement Drain Pipe, Sewer Pipe, Water Pipe and Culvert Tile	Thousand Tons	94·8*	107·2	134·6*	+25·6	+42·0
Clay Products—						
Building Brick (including Sand-Lime Brick)	Million Bricks	305·7*	336·5	334·4*	− 0·6	+ 9·4
Structural Tile	Thousand Tons	134·4	143·4	147·6	+ 2·9	+ 9·8
Vitrified Flue Linings	Thousand Linear Feet	940·1	1,114·4	1,025·0	− 8·0	+ 9·0
Vitrified Sewer Pipe	Million Linear Feet	3·1	3·7	4·0	+ 8·1	+29·0
Rock Wool Products—						
Rock Wool Batts (all sizes)	Million Square Feet	56·7	112·1	82·8	−26·1	+46·0
Bulk Rock Wool (granulated and loose)	Million Cubic Feet	10·6	14·5	9·9	−31·7	− 6·6
Gypsum Products—						
Gypsum Wallboard	Million Square Feet	196·8	210·4	214·1	+ 1·8	+ 8·8
Gypsum Lath	Million Square Feet	86·8	90·7	112·2	+23·7	+29·3
Gypsum Plaster	Thousand Tons	110·0	115·8	134·3	+16·0	+22·1
Roofing Products—						
Asphalt Shingles (all weights)	Million Squares	2·0	2·6	2·1	−19·2	+ 5·0
Smooth and Mineral Surfaced Rolls	Million Squares	3·0	3·2	3·4	+ 6·3	+13·3
Plumbing, Heating and Electrical Equipment—						
Cast Iron Soil Pipe and Fittings	Thousand Tons	24·5	30·0 to 33·0	32·5	−1·5to+8·3	+32·7
Cast Iron Water Pipe and Fittings	Thousand Tons	65·2	†	74·1	†	+13·7
Steel Pipes and Fittings	Thousand Tons	101·2	114·0	92·6	−18·8	− 8·5
Bath Tubs	Thousand Tubs	57·9	79·1	81·1	+ 2·5	+40·0
Sinks	Thousand Sinks	103·7	124·4	120·7	− 3·0	+16·4
Wash Basins	Thousand Basins	78·6	91·9	91·7	− 0·2	+16·7
Furnaces—Warm Air and Heating Boilers	Thousand Furnaces	59·8	72·1	72·1	0·0	+20·6
Cast Iron Radiators	Million Square Feet	7·9	8·5	9·0	+ 5·9	+13·9
Electric Water Heaters	Thousand Heaters	78·3	66·6	74·4	+11·7	− 5·0
Non-Metallic Sheathed Cable (12/2 and 14/2)	Million Linear Feet	45·4	62·8	67·0	+ 6·7	+47·6
Hot Water Storage Tanks (Range Boilers)	Thousand Tanks	131·8	155·2	163·7	+ 5·5	+24·2
Other Products—						
Common, Colourless Window Glass‡	Million Square Feet	43·7	60·0	70·2	+17·0	+60·6
Paints, Varnishes and Lacquers§	Million Dollars	59·1	63·0	72·4	+14·9	+22·5
Wire Nails and Spikes	Thousand Tons	58·9	72·0	77·4	+ 7·5	+31·4
Builders' Hardware	Million Dollars	3·7	4·1	4·5	+ 9·8	+21·6
Rigid Insulating Boards	Million Square Feet ½" Basis	161·8	181·0	203·1	+12·2	+25·5

* Estimated (for coverage see Appendix). † Not available. ‡ Imports. § Factory sales.

(*e.g.*, cast iron soil pipe and fittings and bath tubs, sinks and wash basins), and otherwise encouraged the temporary shifting of facilities to the production of items in particularly short supply (*e.g.*, from other sanitary ware to bath tubs, sinks and wash basins). Better organization of production, more workers and better relations between management and labour were also important factors. Finally, the help of various federal administrators in arranging to channel scarce materials (as for cast iron soil pipe and fittings, gypsum wallboard, lath and plaster and non-metallic sheathed cable) and various production incentives (as for cast iron soil pipe, bath tubs, sinks and wash basins), increased output in materials that were in particularly short supply.

In only three items did production decrease between 1946 and 1947. Production of steel pipes and fittings dropped because of a shortage of the steel skelp from which they are made, a large part of which has to be imported. Steps are being taken to improve this in 1948 by increasing the production of skelp in Canada. A shortage of fuel oil for processing limited the production of bulk rock wool, while a large increase in inventories of electric water heaters during 1947 indicates that the demand for this item was satisfied at the current level of production.

Although imports of building materials do not constitute a large part of available domestic supply, they augment that supply in many items where shortages have been acute. Almost the entire supply of common colourless window glass and a substantial part of structural steel are imported. Imports supplement production in such items as bath tubs, sinks, wash basins, furnaces, rock wool batts and some types of paints and varnishes. Normally very little cement or nails are imported, but in 1947 such imports helped somewhat in easing critical shortages (see Table VI, Section III).

SUMMARY TABLE 4.—AVAILABLE DOMESTIC SUPPLY OF SELECTED BUILDING MATERIALS, CANADA, 1946 AND 1947

Type of Material	Unit	Available Domestic Supply		Percentage Change from 1946
		1946	1947	
Cement and Cement Products—				
Cement	Million Barrels	10·9	13·4	+22·9
Clay Products—				
Building Brick (including Sand-Lime Brick)	Million Bricks	300·7	339·1	+12·8
Rock Wool Products—				
Rock Wool Batts (all sizes)	Million Square Feet	64·5	88·5	+37·2
Gypsum Products—				
Gypsum Plaster	Thousand Tons	116·7	143·0	+22·5
Roofing Products—				
Asphalt Shingles (all weights)	Million Squares	2·0	2·0	0·0
Plumbing, Heating and Electrical Equipment—				
Cast Iron Radiators	Thousand Square Feet	7·9	9·0	+13·9
Other Products—				
Common, Colourless Window Glass	Million Square Feet	43·7	70·2	+60·6
Paints, Varnishes and Lacquers	Million Dollars	64·1	77·0	+20·1
Wire Nails and Spikes	Thousand Tons	58·3	81·6	+40·0
Rigid Insulating Boards	Million Square Feet			
	½" Basis	144·3	191·9	+33·0

Largely because of increased imports, available domestic supply of building materials, as a whole, increased more than production between 1946 and 1947. This was true for seven of the ten building materials for which data can be

obtained (see Summary Tables 3 and 4). The level of supply was high enough to permit the completion of most private construction projects planned for the year. It also permitted some narrowing of the gap between demand and supply. On the basis of veterans' requests for priorities aid in procuring building materials it would appear that supply was being brought into better balance with demand during 1947 in such scarce materials as heating equipment, electrical wiring and wiring devices and non-metallic sheathed cable. On the other hand, the expanded house-building program prevented any appreciable improvement in the supply position of bathtubs and other sanitary ware, range boilers, flooring, wallboard and lath, doors and windows, nails, soil pipe, sewer pipe, galvanized and other pipe, cement, and vitrified flue linings. Most other building materials were in fair to good supply except for temporary shortages in some areas.

The level of demand in 1947 was such that it was not possible to build up inventories at the producer level to any significant extent. In the 22 materials for which inventory data are available, stocks of 13 were higher, six lower and three substantially unchanged. Inventory of most of these items is so low, however, that the apparent improvement is illusory. This is realized when year-end stocks are compared with year-end rates of sales. It is found that the ratio of stocks to sales did not change substantially between the end of 1946 and the end of 1947 for seven items, had improved for seven and dropped for eight. Furthermore, in only three items—cement, cement pipe and electric water heaters—was there over one month's supply at the producer level at the end of 1947, and all three items reflect the low rate of winter sales (see Table VII, Section III).

SECTION II.—OUTLOOK FOR 1948

On the whole, the supply position of basic and building materials was better at the beginning of 1948 than it was at the beginning of 1947. Although it had not been possible to improve the inventory position at the producer level, most materials were being turned out at record or near-record rates and were moving to end users more smoothly. The imposing of import controls in November, 1947, reduced the rate of supply of some basic and building materials, but taking account of increased domestic production during the year, few cases would be found where the rate of supply would be lower than at the beginning of 1947.

The level of demand for the basic and building materials considered here was also higher. An increasing level of economic activity was primarily responsible for this. Efforts to enlarge exports to the dollar-area market to help correct foreign exchange difficulties would tend to augment this demand, and the demand for domestically-produced materials was increased by the restrictions placed on a wide range of imported durable goods.

Present prospects are that the production of the nine basic materials dealt with in this report will increase very little in 1948 while substantial increases will occur in the production of quite a large number of building materials. It seems reasonable to expect that this year's production intentions will on the whole be realized in the absence of unfavourable developments. The most likely unfavourable development is a deterioration in labour-management relations. The sharp increase in the cost of living in the closing months of 1947 on the one hand, and the slow recovery of per-worker productivity from post-war lows on the other, may result in more industrial disputes during 1948. Directly or indirectly such disputes could lower the production of basic and building materials very substantially. Another factor is that less pig iron is currently being made available to foundries than in 1947. If the situation deteriorates further it could prevent realization of production intentions in some of the building materials with an iron content.

Canada's foreign exchange problem introduces a measure of uncertainty in evaluating available domestic supply of basic and building materials in 1948. The basic materials are little affected and only a few of the building materials are seriously affected by import controls. Directly, therefore, available domestic supply should not be greatly reduced by Canadian foreign exchange conservation measures. The pressure to limit imports and to increase exports to the dollar-area market, however, will tend less directly to limit supplies available to the Canadian market. The most likely result will be to delay the easing of shortages rather than to aggravate them.

The prospects are that the level of expenditures for replacement and expansion of all types of durable physical assets will be about 17 per cent higher in 1948 than in 1947, and for the repair and maintenance of existing assets less than 4 per cent higher, for a combined increase of about 13 per cent. The total expenditure on machinery and equipment is expected to be up about 9 per cent and for the construction and repair of buildings and engineering works about 16 per cent. It would appear that the largest part of the increased construction expenditures will be for the erecting of buildings rather than for engineering works like highways, bridges, railway rights-of-way and electric power transmission lines[1]. Taking account of probable price increases, the level of domestic

[1] New construction and the repair and maintenance of structures in the manufacturing, commercial, merchandising and service industries and for institutional and residential building is expected to be up about 19 per cent. Most of this will be for buildings. The proposed construction outlays of the primary and construction industries, utilities and government departments, which involves a large amount of field engineering, will be up about 12 per cent.

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demand for machinery and equipment, which requires iron and steel, should not be higher in 1948 than in 1947, while the demand for building materials should be up moderately.

In view of the fact that the level of production and supply of basic and building materials was great enough to permit full realization of the 1947 investment program in overall money terms, it seems likely that this year's investment program can also be fully realized in the absence of particularly unfavourable developments. The one sector where a real increase in demand is apparent is for building materials, and the supply of these materials should be larger. The key to the realization of the 1948 investment program, as it was of the 1947 program, will be the domestic production and imports of primary iron and steel. These products are in critically short supply and the demand for them for making capital and other durable goods has been further intensified by import restrictions[1].

Basic Materials

Except for coal, production intentions for basic materials do not anticipate a level of production in 1948 more than 5 per cent above the level of 1947, with a strong possibility that the production of pig iron, steel ingots and steel castings will not increase and that the production of lumber may be lower (see Summary Table 5). The substantial increase expected in coal production reflects both a lowered volume of production in 1947 due to strikes in the Maritimes and an increasing rate of productivity in this coalfield since the ending of the strikes.

SUMMARY TABLE 5.—ESTIMATED PRODUCTION AND PRODUCTION INTENTIONS OF BASIC MATERIALS, CANADA, 1947 AND 1948

Type of Material	Unit	Estimated Production 1947	Production Intentions 1948	Percentage Change from 1947
Lumber	Billion Board Feet	5·2	5·0 to 5·2	−3·8 to 0·0
Asbestos	Thousand Tons	668·2	698·8	+4·6
Gypsum	Million Tons	2·6*	2·7	+3·8
Coal	Million Tons	15·9	18·5	+16·4
Coke	Million Tons	3·5	3·7	+5·7
Pig Iron	Million Tons	2·0	2·0	0·0
Steel Ingots	Million Tons	2·9	2·9 to 3·0	0·0 to +3·4
Steel Castings	Thousand Tons	90·6	91·0 to 95·0	+0·4 to +4·9
Copper	Million Pounds	454·5	471·2	+3·7

* Shipments plus quantity used by producers.

In the absence of particularly unfavourable developments such as widespread industrial disputes, the only materials that will be in critically short supply are the primary iron and steel items. The margin for increasing the production of pig iron above its 1947 level is narrow. Present effective capacity is almost completely utilized and no new capacity is being brought into operation. Somewhat more production can be obtained from present capacity if the quality of coke used in processing improves. Steel ingot output is also close to its present upper limit having regard to furnace capacity. An increase in production above the 1947 level is dependent on obtaining a larger volume of metallics either in the form of more and better scrap metal or more pig iron. Unless available supplies both of scrap and pig iron increase, greater ingot production must be at the expense of steel casting and foundry production. The prospects are that primary iron and steel production can be maintained at its 1947 level, but that it is not likely to exceed it.

[1] The 1948 investment program and the possibility of its realization are discussed in *Private and Public Investment in Canada, Outlook 1948*.

Limitations placed on the import of a wide range of iron and steel products will tend to increase the demand for domestically-produced primary iron and steel and the impact of the European Recovery Program under consideration in the United States Congress may place an additional demand on the available domestic supply of these materials. It seems unlikely, therefore, that the procurement of iron and steel will be easier in 1948 than it was in 1947 and could well be more difficult.

Barring prolonged labour-management disputes in United States coalfields, an increased shortage of American rail transport equipment to move coal to Great Lake ports, or the shipment of increased quantities of American coal to Europe, the level of imports of coal and coke should be high enough to assure an adequate supply of these fuels in Canada in 1948. Good quality coking coal will continue in short supply. While this lowers the average grade of coke it does not affect the quantity of coke available. If the anticipated increases in the domestic production of coal and coke are realized this year, it is probable that a somewhat smaller volume of imports of these materials will be needed to meet Canadian requirements.

The level of production of lumber in 1948 is not likely to rise above that of 1947 and may be lower. Reduced commitments on the part of the United Kingdom to take Canadian lumber has the immediate effect of reducing the demand. It is unlikely that other external markets will absorb a substantially larger amount of Canadian lumber in 1948. The United States market will undoubtedly take a larger share of Canadian production, but the increase will be confined almost entirely to prime quality planks and boards. The foreign exchange difficulties of most other countries preclude their increasing the level of their imports of Canadian lumber. The domestic market will probably demand more lumber in 1948 than 1947, but here again the emphasis will be on the good grades. There should be a further improvement during the year in the Canadian supply position for grades and types of lumber still difficult to procure.

Building Materials

Fairly substantial increases in the production of building materials are expected in 1948. Expansion of production of 10 per cent or more is indicated for 12 items, of from 5 to 10 per cent for eight, and of less than 5 per cent for eight, while the production of two items is expected to decrease (see Summary Table 6). The range of expected increase over 1947 levels is less than the realized increase between 1946 and 1947 in all but six items, indicating the satisfying of demand in some materials and the reaching of capacity production in others (see Summary Tables 3 and 6).

Of the 12 building materials with projected increases in output of 10 per cent or more in 1948, eight also had substantial increases in 1947. These are bath tubs, sinks, gypsum plaster, gypsum lath, rock wool batts, rigid insulating board, non-metallic sheathed cable and vitrified sewer pipe. Even if the projected increases are realized, it is expected that gypsum lath, gypsum plaster and vitrified sewer pipe will continue in tight supply through all or most of 1948. The same condition will probably prevail for two of the remaining four materials the production of which is expected to increase by more than 10 per cent in 1948, namely, steel pipes and fittings and gypsum wallboard.

Among the building materials with anticipated increases of less than 10 per cent or decreases, the ones that will probably continue in tight supply in 1948 are cast iron soil pipe and fittings, cast iron water pipe and fittings, cement and cement products, vitrified flue linings, furnaces, and nails and spikes.

The production outlook in 1948 for building materials with a high iron content is difficult to assess. For the purpose of maintaining primary steel production, there has been a substantial reduction in the volume of good quality

SUMMARY TABLE 6.—ESTIMATED PRODUCTION AND PRODUCTION INTENTIONS OF SELECTED BUILDING MATERIALS, CANADA, 1947 AND 1948

Type of Material	Unit	Estimated Production 1947	Production Intentions 1948	Percentage Change from 1947
Cement and Cement Products—				
Cement	Million Barrels	12·1	13·3	+ 9·9
Concrete Brick and Building Blocks	Million Pieces	51·9	52·4	+ 1·0
Cement Drain Pipe, Sewer Pipe, Water Pipe and Culvert Tile	Thousand Tons	134·6	138·4	+ 2·8
Clay Products—				
Building Brick (including Sand-Lime Brick)	Million Bricks	334·4	343·5	+ 2·7
Structural Tile	Thousand Tons	147·6	177·7	+20·4
Vitrified Flue Linings	Thousand Linear Feet	1,025·0	1,077·0	+ 5·1
Vitrified Sewer Pipe	Million Linear Feet	4·0	4·4	+10·0
Rock Wool Products—				
Rock Wool Batts (all sizes)	Million Square Feet	82·8	103·4	+24·9
Bulk Rock Wool (granulated and loose)	Million Cubic Feet	9·9	11·7	+18·2
Gypsum Products—				
Gypsum Wallboard	Million Square Feet	214·1	247·4	+15·6
Gypsum Lath	Million Square Feet	112·2	139·6	+24·4
Gypsum Plaster	Thousand Tons	134·3	169·3	+26·1
Roofing Products—				
Asphalt Shingles (all weights)	Million Squares	2·1	2·2	+ 4·8
Smooth and Mineral Surfaced Rolls	Million Squares	3·4	3·4	0·0
Plumbing, Heating and Electrical Equipment—				
Cast Iron Soil Pipe and Fittings	Thousand Tons	32·5	32·5 to 35·8	0·0 to +10·0
Cast Iron Water Pipe and Fittings	Thousand Tons	74·1	60·0 to 67·0	−19·0 to − 9·6
Steel Pipes and Fittings	Thousand Tons	92·6	125·0	+35·0
Bath Tubs	Thousand Tubs	81·1	108·0 to 119·0	+33·2 to +46·7
Sinks	Thousand Sinks	120·7	130·0 to 148·0	+ 7·7 to +22·6
Wash Basins	Thousand Basins	91·7	99·8	+ 8·8
Furnaces—Warm Air and Heating Boilers	Thousand Furnaces	72·1	77·0	+ 6·8
Cast Iron Radiators	Million Square Feet	9·0	7·0 to 8·0	−22·2 to −11·1
Electric Water Heaters	Thousand Heaters	74·4	74·5	+ 0·1
Non-Metallic Sheathed Cable (12/2 and 14/2)	Million Linear Feet	67·0	74·8	+11·6
Hot Water Storage Tanks (Range Boilers)	Thousand Tanks	163·7	176·4	+ 7·8
Other Products—				
Common, Colourless Window Glass*	Million Square Feet	70·2	71·0 to 72·0	+1·1 to+2·6
Paints, Varnishes and Lacquers†	Million Dollars	72·4	77·3	+ 6·8
Wire Nails and Spikes	Thousand Tons	77·4	78·0	+ 0·8
Builders' Hardware	Million Dollars	4·5	4·8	+ 6·7
Rigid Insulating Boards	Million Square Feet, ½" Basis	203·1	226·7	+11·6

* Imports.
† Factory sales.

pig iron going to grey iron foundries in the fore part of the year. This reduction is partly offset by providing some pig iron of inferior quality. The extent to which the inferior metal can be used will depend on the quantity and quality of scrap and other primary iron available to mix with it. Unless the foundries are able to obtain more scrap iron than in 1947, the total production of cast iron products will suffer. Among building materials most likely to be affected are cast iron water pipe and fittings and cast iron radiators, the production of which may be down as much as 20 per cent. Other items that may be adversely affected are cast iron soil pipe and fittings, bath tubs, sinks, wash basins and furnaces.

Since the total volume of imports of building materials is not large, import restrictions will not directly reduce the available domestic supply of most items appreciably. The important building material imports are structural steel, sanitary ware, heating equipment, hardwood flooring, cement, nails and window glass. Imports of the last three items have not been restricted. Restrictions placed on bath tubs, sinks, wash basins and heating equipment should not prove too serious if production intentions for these products are realized during the year. Although not in good supply, domestically-produced hardwood flooring is available as a substitute for imported flooring. Imports of structural steel will be permitted under licence for construction projects considered in the national interest.

The indications are for an increase in the supply of building materials on a scale that will support a national construction program moderately larger than that realized in 1947. Substantial increases in the production of many materials still in acute supply should result in a better over-all balance between demand and supply in 1948 than prevailed in 1947, but it would appear that shortages will persist in most of the materials that were difficult to procure in the fore part of the year. Steel, and various iron and steel products, will be the chief limiting factors.

SECTION III.—TABULAR MATERIAL

TABLE

TABLE I.—PRODUCTION OF SELECTED BASIC MATERIALS, CANADA, FOR YEARS SPECIFIED

Type of Material	Unit	Pre-War Peak Production [1]		1939	War Peak Production [2]		1945	1946	1947		1948
		Year	Volume		Year	Volume			Intentions [3]	Realized [4]	Intentions [3]
Lumber	Billion Board Feet	1929	4·7	4·0	1941	4·9	4·5	4·9[4]	4·9 to 5·2	5·2	5·0 to 5·2
Asbestos	Thousand Tons	1937	410·0[5]	364·5[5]	1941	477·8[5]	442·8	558·2	594·0	668·2	698·8
Gypsum[5]	Million Tons	1939	1·4	1·4	1941	1·6	0·8	1·8	2·6	2·6	2·7
Coal	Million Tons	1928	17·6	15·7	1942	18·9	16·5	17·8	—[6]	15·9	18·5
Coke	Million Tons	1937	2·6	2·4	1944	4·0	3·9	3·3	—[6]	3·5	3·7
Pig Iron	Million Tons	1929	1·2	0·8	1942	2·0	1·8	1·4	1·9	2·0	2·0
Steel Ingots	Million Tons	1937	1·5	1·5	1942	3·0	2·7	2·3	3·1	2·9	2·9 to 3·0
Steel Castings	Thousand Tons	1929	76·6	61·0	1942	150·9	134·1	81·2	100·0	90·6	91·0to95·0
Copper	Million Pounds	1939	608·8	608·8	1940	655·6	474·9	367·9	450·6	454·5	471·2

(1) Back to 1919, where figures are available.
(2) Covering full war years 1940–1944.
(3) Production intentions at first of year.
(4) Estimated production, subject to revision.
(5) Shipments plus quantities used by producers.
(6) Not available.

TABLE II.—EXPORTS AND IMPORTS OF SELECTED BASIC MATERIALS, CANADA, 1945, 1946 AND 1947

Type of Material	Unit	Exports			Imports		
		1945	1946	1947	1945	1946	1947
Lumber	Million Board Feet	2,000·3	2,083·2	2,735·0	50·6	58·7	105·4
Asbestos	Thousand Tons	440·6	520·8	636·9	0·0	0·0	0·0
Gypsum	Thousand Tons	559·1	1,488·7	1,937·0	3·8	3·7	8·9
Coal	Million Tons	0·8	0·9	0·7	25·1	26·1	28·9
Coke	Thousand Tons	38·7	49·2	106·6	1,244·4	900·9	572·7
Pig Iron	Thousand Tons	21·9	0·9	1·5	7·6	12·1	8·9
Steel Ingots	Thousand Tons	44·9(2)	79·3(2)	85·0(2)	—(1)	2·0	3·8
Steel Castings	Thousand Tons	4·1(3)	9·2(3)	7·1(3)	4·0	6·0	34·9
Copper	Million Pounds	297·3	238·1	233·1	0·0	—(4)	—(4)

(1) Not available.
(2) Comprises ingots, billets and blooms of iron and steel.
(3) Including iron castings.
(4) Imports were insignificant, only amounting to 200 pounds in 1946 and to 1,100 pounds in 1947.

TABLE III.—STOCKS AND STOCKS-TO-SALES RATIOS OF SELECTED BASIC MATERIALS, CANADA, DECEMBER 1945, 1946 AND 1947[1]

Type of Material	Unit	Stocks at December 31			Ratio of Stocks at December 31 to December Sales.		
		1945	1946	1947	1945	1946	1947
Lumber	Million Board Feet	405·5[2]	470·7[2]	467·5[2]	—[3]	2·06	2·32
Gypsum	Thousand Tons	131·8	333·0	293·7	2·61	3·12	1·68
Coal	Thousand Tons	10,783	11,701	13,469	—[4]	—[4]	—[4]
Coke	Thousand Tons	584·0	774·0	597·0	—[4]	—[4]	—[4]
Pig Iron	Thousand Tons	25·2	50·6	45·0	·19	·31	·27
Steel Ingots	Thousand Tons	37·3	42·3	29·8	·18	·18	·12
Copper	Million Pounds	33·6	38·8	34·6	·77	1·53	·98

(1) No information available for asbestos and steel castings.
(2) Estimated (for coverage see Appendix).
(3) Not available as sales not reported.
(4) Not available as stocks and sales not reported on comparable basis.

TABLE IV.—AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BASIC MATERIALS, CANADA, 1945, 1946 AND 1947

Type of Material	Unit	Available Domestic Supply[1]			Domestic Disappearance[2]	
		1945	1946	1947	1946	1947
Lumber	Billion Board Feet	2·6	2·9	2·6	—[3]	—[3]
Asbestos	Thousand Tons	2·2	37·4	31·4	—[3]	—[3]
Gypsum	Thousand Tons	284·5	348·7	659·8	157·5	699·1
Coal	Million Tons	40·4	43·0	44·0	42·2	42·2
Coke	Million Tons	5·1	4·2	3·9	4·0	4·1
Pig Iron	Million Tons	1·8	1·4	2·0	1·4	2·0
Steel Ingots	Million Tons	2·7	2·2	2·8	2·2	2·8
Steel Castings	Thousand Tons	134·0	78·0	118·4	—[3]	—[3]
Copper	Million Pounds	177·6	129·8	221·3	124·6	225·5

(1) Production plus imports minus exports.
(2) Production plus imports plus net change in stocks between beginning and end of year minus exports.
(3) Not available.

TABLE V.—PRODUCTION OF SELECTED BUILDING MATERIALS, CANADA, FOR YEARS SPECIFIED

Type of Material	Unit	Pre-War Peak Production [1]		1939	War Peak Production [2]		1945	1946	1947		1948
		Year	Volume		Year	Volume			Intentions [3]	Realized [4]	Intentions [3]
Cement and Cement Products—											
Cement	Million Barrels	1929	12·3	5·7	1942	8·6	7·8	10·7	11·7	12·1	13·3
Concrete Brick and Building Blocks[5]	Million Pieces	.....	.....	.....	.....	.....	.....	30·1[6]	34·3	51·9[6]	52·4
Cement Drain Pipe, Sewer Pipe, Water Pipe and Culvert Tile[5]	Thousand Tons	.....	.....	.....	.....	.....	.....	94·8[6]	107·2	134·6[6]	138·4
Clay Products—											
Building Brick (including Sand-Lime Brick)	Million Bricks	1929	537·0[7]	176·8[7]	1941	228·1[7]	209·0[6]	305·7[6]	336·5	334·4[6]	343·5
Structural Tile	Thousand Tons	1929	221·8[7]	86·1[7]	1941	117·5[7]	90·2	134·4	143·4	147·6	177·7
Vitrified Flue Linings[5]	Thousand Linear Feet	.....	.....	.....	.....	.....	.....	940·1	1,114·4	1,025·0	1,077·0
Vitrified Sewer Pipe[5]	Million Linear Feet	.....	.....	.....	.....	.....	.....	3·1	3·7	4·0	4·4
Rock Wool Products—											
Rock Wool Batts (all sizes)	Million Square Feet	1939	9·1	9·1	1943	41·1	34·4	56·7	112·1	82·8	103·4
Bulk Rock Wool (granulated and loose)	Million Cubic Feet	1939	1·8	1·8	1944	4·6	5·2	10·6	14·5	9·9	11·7
Gypsum Products—											
Gypsum Wallboard	Million Square Feet	1939	78·2	78·2	1943	192·2	134·0	196·8	210·4	214·1	247·4
Gypsum Lath	Million Square Feet	.....	.....	.....	.....	.....	59·9	86·8	90·7	112·2	139·6
Gypsum Plaster	Thousand Tons	1939	69·9	69·9	1941	80·2	67·1	110·0	115·8	134·3	169·3
Roofing Products—											
Asphalt Shingles (all weights)	Million Squares	1939	0·5	0·5	1944	1·1	1·4	2·0	2·6	2·1	2·2
Smooth and Mineral Surfaced Rolls	Million Squares	1939	1·3	1·3	1944	2·2	2·4	3·0	3·2	3·4	3·4
Plumbing, Heating and Electrical Equipment—											
Cast Iron Soil Pipe and Fittings	Thousand Tons	1929	21·4	16·5	1941	26·4	20·8	24·5	30·0to33·0	32·5	32·5 to 35·8
Cast Iron Water Pipe and Fittings	Thousand Tons	1931	80·6	33·1	1942	50·0	45·9	65·2	—[8]	74·1	60·0 to 67·0

Steel Pipes and Fittings	Thousand Tons	1929	137·1	90·5	1941	158·4	139·3	101·2	114·0	92·6	125·0
Bath Tubs[5]	Thousand Tubs							57·9	79·1	81·1	108·0 to 119·0
Sinks[5]	Thousand Sinks							103·7	124·4	120·7	130·0 to 148·0
Wash Basins[5]	Thousand Basins							78·6	91·9	91·7	99·8
Furnaces—Warm Air and Heating Boilers	Thousand Furnaces	1929	49·3	39·6	1941	44·4	48·7	59·8	72·1	72·1	77·0
Cast Iron Radiators	Million Square Feet	1937	5·0	5·0	1944	7·0	7·2	7·9	8·5	9·0	7·0 to 8·0
Electric Water Heaters	Thousand Heaters	1937	24·2	23·0	1941	36·5	57·2	78·3	66·6	74·4	74·5
Non-Metallic Sheathed Cable (12/2 and 14/2)[5]	Million Linear Feet							45·4	62·8	67·0	74·8
Hot Water Storage Tanks (Range Boilers)	Thousand Tanks	1939	96·8	96·8	1940	98·6	134·7	131·8	155·2	163·7	176·4
Other Products—											
Common, Colourless Window Glass[9]	Million Square Feet	1929	51·4	48·8	1944	45·3	39·8	43·7	60·0	70·2	71·0 to 72·0
Paints, Varnishes and Lacquers	Million Dollars	1929	27·1	25·9	1944	49·1	48·4	59·1[7]	63·0	72·4[7]	77·3
Wire Nails and Spikes	Thousand Tons	1939	66·5	66·5	1941	82·6	70·0	58·9	72·0	77·4	78·0
Builders' Hardware	Million Dollars	1929	3·8	2·5	1941	4·3	4·2	3·7	4·1	4·5	4·8
Rigid Insulating Boards	Million Square Feet $\frac{1}{2}$" Basis	1937	107·1	98·1	1941	169·4	164·7	161·8	181·0	203·1	226·7

(1) Back to 1919, where figures are available.
(2) Covering full war years 1940-44.
(3) Production intentions at first of year.
(4) Estimated production, subject to revision.
(5) Figures not available prior to 1946.
(6) Estimated (for coverage see Appendix).
(7) Factory sales.
(8) Not available.
(9) Imports.

TABLE VI.—EXPORTS AND IMPORTS OF SELECTED BUILDING MATERIALS, CANADA, 1945, 1946 AND 1947[1]

Type of Material	Unit	Exports			Imports		
		1945	1946	1947	1945	1946	1947
Cement	Thousand Barrels	282·5	114·4	88·0	32·7	350·1	1,248·6
Building Brick (including Sand-Lime Brick)	Thousand Bricks	3,708·0	6,114·0	4,186·0	1,387·2	1,131·6	8,929·5
Rock Wool Batts (all sizes)	Thousand Square Feet	—[3]	—[3]	—[3]	5,993·3[2]	7,822·3[2]	5,775·4[2]
Gypsum Plaster	Tons	447	969	1,423	2,884	7,633	10,071
Asphalt Shingles (all weights)	Thousand Squares	—[3]	4·5	8·9	—[3]	10·1	—[3]
Cast Iron Radiators	Thousand Square Feet	—[3]	—[3]	—[3]	0·3	7·6	43·8
Common, Colourless Window Glass	Thousand Square Feet	15·3[4]	4·3[4]	93·1[4]	39,803·8	43,724·3	70,227·4
Paints, Varnishes and Lacquers[5]	Thousand Dollars	3,973·2	4,406·7	7,346·2	8,661·8	9,436·5	13,441·5
Wire Nails and Spikes	Tons	814	1,270	32	71	680	4,147
Rigid Insulating Boards	Thousand Square Feet ½″ Basis	45,339·8	36,177·0	51,148·2	16,647·9	18,684·0	39,914·8

(1) Comparable data are available only for 10 out of 30 building materials reviewed.
(2) Imports are reported by the Department of Trade and Commerce in pounds. These have been converted to square feet on a 3 inch basis assuming the imports are all batt wool.
(3) No exports, or imports reported by the Department of Trade and Commerce.
(4) Glass of foreign origin only.
(5) Paints, pigments and varnishes.

TABLE VII.—STOCKS AND STOCKS-TO-SALES RATIOS OF SELECTED BUILDING MATERIALS, CANADA, DECEMBER 1945, 1946 AND 1947[1]

Type of Material	Unit	Stocks at December 31			Ratio of Stocks at December 31 to December Sales		
		1945	1946	1947	1945	1946	1947
Cement and Cement Products—							
Cement	Thousand Barrels	1,358·6	466·8	731·2	4·44	0·88	1·16
Concrete Brick and Building Blocks[2]	Thousand Pieces	634·0	1,224·6	2,232·2	0·53	0·57	0·68
Cement Drain Pipe, Sewer Pipe, Water Pipe and Culvert Tile[2]	Tons	8,268	12,193	10,362	3·31	2·19	1·17
Clay Products—							
Building Brick (including Sand-Lime Brick)[2]	Thousand Bricks	19,047	18,857	22,999	1·12	0·80	0·87
Structural Tile	Tons	9,725	8,499	7,351	1·52	0·90	0·63
Vitrified Flue Linings	Linear Feet	10,727	23,787	27,664	—[3]	0·34	0·29
Vitrified Sewer Pipe	Linear Feet	12,200	80,685	53,665	—[3]	0·31	0·15
Rock Wool Products—							
Rock Wool Batts (all sizes)	Thousand Square Feet	78·0	350·1	627·2	0·03	0·06	0·08
Bulk Rock Wool (granulated and loose)	Thousand Cubic Feet	35·0	142·8	123·1	0·07	0·13	0·12
Gypsum Products—							
Gypsum Wallboard	Thousand Square Feet	1,455·2	1,810·0	1,167·3	0·12	0·11	0·06
Gypsum Lath	Thousand Square Feet	331·7	682·5	648·9	0·05	0·09	0·06
Gypsum Plaster	Tons	582	559	537	0·11	0·05	0·05
Plumbing, Heating and Electrical Equipment—							
Cast Iron Soil Pipe and Fittings	Tons	966	1,310	1,636	0·60	0·62	0·56
Cast Iron Water Pipe and Fittings	Tons	—[3]	—[3]	2,271	—[3]	—[3]	0·71
Steel Pipes and Fittings	Tons	9,388	13,566	4,237	0·93	3·04	0·75
Bath Tubs	Number	2,071	981	1,522	—[3]	0·17	0·20
Sinks	Number	2,495	3,513	4,804	—[3]	0·34	0·42
Wash Basins	Number	3,266	3,912	6,761	—[3]	0·59	0·84
Cast Iron Radiators	Thousand Square Feet	338·0	412·1	546·2	—[3]	0·60	0·71
Electric Water Heaters	Number	149	812	3,919	—[3]	0·27	1·18
Non-Metallic Sheathed Cable (12/2 and 14/2)	Thousand Linear Feet	194·0	981·0	846·4	—[3]	0·24	0·02
Hot Water Storage Tanks (Range Boilers)	Number	305	109	281	—[3]	0·01	0·02
Other Products—							
Wire Nails and Spikes[2]	Tons	4,741	3,123	4,382	0·92	0·55	0·99

(1) No information available for roofing products, furnaces, glass, paints, varnishes and lacquers, builders' hardware, and rigid insulating boards.
(2) Estimated (for coverage see Appendix).
(3) Not available.

TABLE VIII.—AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BUILDING MATERIALS, CANADA, 1945, 1946 AND 1947

Type of Material	Unit	Available Domestic Supply[1]			Domestic Disappearance[2]	
		1945	1946	1947	1946	1947
Cement	Million Barrels	7·6	10·9	13·4	11·8	13·3
Building Brick (including Sand-Lime Brick)	Million Bricks	206·7	300·7	339·1	300·9	335·0
Rock Wool Batts (all sizes)	Million Square Feet	40·3	64·5	88·5	64·2	88·3
Gypsum Plaster	Thousand Tons	69·5	116·7	143·0	116·7	143·0
Asphalt Shingles (all weights)	Million Squares	—[3]	2·0	2·0	—[3]	—[3]
Cast Iron Radiators	Million Square Feet	7·2	7·9	9·0	7·5	8·9
Common, Colourless Window Glass	Million Square Feet	39·8	43·7	70·2	—[3]	—[3]
Paints, Varnishes and Lacquers	Million Dollars	53·1	64·1	77·0	—[3]	—[3]
Wire Nails and Spikes	Thousand Tons	69·3	58·3	81·6	59·9	80·3
Rigid Insulating Boards	Million Square Feet, ½″ Basis	136·0	144·3	191·9	—[3]	—[3]

(1) Production plus imports minus exports.
(2) Production plus imports plus net change in stocks between beginning and end of year minus exports.
(3) Not available.

APPENDIX

Sources and Explanatory Notes

Data on production, exports, imports, inventories and inventory-to-sales ratios of basic and building materials for 1947 and prior years are, with some adjustments, based on statistics gathered by the Dominion Bureau of Statistics, except in those cases specifically indicated in the notes that follow. Production intentions of producers of basic and building materials for the years 1947 and 1948 are based on surveys of expected output of a large proportion of the companies producing the various materials. The questionnaires were distributed by the Dominion Bureau of Statistics. Preliminary estimates of intentions were prepared by the Economic Research Branch, Department of Reconstruction and Supply, for all but a few items. In these cases the estimates were prepared by branches of Government concerned with the administration of the specific materials.

The preliminary estimates were reviewed by the Co-ordinator of Building Materials, Department of Reconstruction and Supply. Special enquiries were made in those cases where output intentions indicated a small volume of production in the coming year. The Department of Reconstruction and Supply endeavoured to assist companies facing production bottlenecks so they could reach higher production goals than indicated by their year-end plans. Data on production intentions contained in the report incorporated these changes and represent final intentions as they existed at the beginning of 1948.

While the information thus obtained represents the best available information on the subject, it bears emphasis that there are many factors that may interfere with these production plans in the course of 1948. Events like prolonged management-labour disputes, delay in the import of needed machinery, equipment, materials and parts, changes in present import controls to conserve foreign exchange and lack of skilled labour are among these factors.

Sources and explanatory notes for the items covered in the study are given below.

BASIC MATERIALS

Lumber. "Lumber," as used in this report, refers to *sawn* lumber. Production figures for 1946 and 1947 are estimates supplied by Timber Controller, Department of Reconstruction and Supply. The forecast for 1948 is from the same source. Data on stocks and shipments cover only sawmills east of the Rockies, which accounted for 55 per cent of total output in 1945. Both stock and shipment data are estimates based on a sample of approximately 1,000 sawmills in December, 1945, 750 sawmills in December, 1946, and 975 sawmills in December, 1947. Data on exports include planks and boards of all kinds and square timbers. Export and import figures for 1947 are preliminary.

Asbestos. "Asbestos" comprises crude, fibres, and shorts. Production, export and import figures for 1947 are preliminary. Inventory data are not available for release.

Gypsum. Figures shown as production refer to shipments of crude gypsum, plus calcined gypsum shipped or used by producers. Data on exports refer to "gypsum or plaster crude" and "gypsum ground". Data on stocks cover producers only. All figures shown for 1947 are preliminary.

Coal. Production, export and import figures shown for 1947 are all preliminary. Estimate of production intentions for 1948 and inventories supplied by Dominion Coal Board. Stocks cover commercial, industrial, railway and bunkering holdings and coal on bank at mines.

Coke. Production refers to output from ovens and retorts of coke made from coal. Petroleum coke is not included in any figures used in this report. Estimate of production intentions for 1948 and inventories supplied by Dominion Coal Board. Stocks refer to coke in the hands of industrial users and wholesalers. All 1947 figures are preliminary and subject to revision.

Pig Iron. Basic, foundry and malleable pig iron are included under this heading. Estimate of production intentions for 1948 supplied by Steel Controller, Department of Reconstruction and Supply. Data on production, exports and imports for 1947 are all preliminary.

Steel Ingots. Data on inventories, imports and production intentions for 1948 were supplied by Steel Controller, Department of Reconstruction and Supply. Export data comprise "ingots, billets and blooms of iron and steel". All 1947 figures are preliminary.

Steel Castings. Production figures cover direct steel castings made by operators of steel furnaces and represent new steel output not included in steel ingot production figures. Data on imports and estimate of 1948 production intentions have been supplied by Steel Controller, Department of Reconstruction and Supply. Data on exports comprise castings of iron as well as of steel. All 1947 figures are preliminary. No inventory figures are available.

Copper. Production figures include blister copper produced in Canada and recoverable copper in concentrates, matte, etc., exported. Data on inventories refer to producers' and consumers' stocks of refined metal only. Export figures comprise "copper fine, contained in ore, matte, etc., copper blister and copper in blocks, pigs and ingots". Figures for 1947 are all preliminary.

BUILDING MATERIALS

Cement. Figures on sales relate to shipments plus quantities used by producers. All data for 1947 are preliminary.

Concrete Brick and Building Blocks. Building blocks include concrete solid blocks, concrete hollow blocks and concrete cinder blocks. No information on a unit basis is available prior to December, 1945. Annual and monthly figures on production, sales and stocks are estimates based on data supplied by the majority of producing firms in the field.

Cement Drain Pipe, Sewer Pipe, Water Pipe and Culvert Tile. No information available on a unit basis prior to December, 1945. Annual and monthly figures of production, sales and stocks are estimates based on data supplied by the majority of producing firms in the field.

Building Brick. Building brick includes face and common clay brick and sand-lime brick. Annual and monthly figures of production, sales and stocks are estimates based on data supplied by the majority of producers in the field. Export and import figures for 1947 are preliminary. Imports have been converted from tons to thousands of bricks to assure comparability of data.

Structural Tile. Production, sales and stock figures for 1947 are preliminary.

Vitrified Flue Linings. Data on a unit basis are not available prior to 1946. All 1947 figures are preliminary.

Vitrified Sewer Pipe. Data on a unit basis are not available prior to 1946. All 1947 figures are preliminary.

Rock Wool Batts (all sizes). Rock wool batt figures include 1-inch, 2-inch, 3-inch and 4-inch batts. All 1947 figures are preliminary. Data on sales refer to producers' shipments. Stocks are as reported by producers only. Data on imports relate to "mineral wool (n.o.p.)". Imports are shown in pounds and these have been converted to square feet on a 3 inch basis on the assumption that all imports were batt wool.

Bulk Rock Wool. Bulk rock wool comprises granulated rock wool and bulk or loose rock wool. All 1947 figures are preliminary.

Gypsum Wallboard. Data on sales refer to shipments reported by producers. Stocks are those held by producers. All 1947 figures are preliminary.

Gypsum Lath. All 1947 figures are preliminary. Sales and stocks are as reported by producers. No data are available prior to December, 1945.

Gypsum Plaster. Sales are producers' shipments. Exports and imports are classified as "plaster of Paris wall plaster". All figures for 1947 are preliminary.

Asphalt Shingles (all weights). This group comprises asphalt shingles of all weights and asphalt siding produced on shingle machines. No inventory figures are available. Exports refer to those reported by producers. Imports include asphalt and composition shingles. All figures shown for 1947 are preliminary.

Smooth and Mineral Surfaced Rolls. No stock figures are available. Exports are as reported by producers. All 1947 figures are preliminary.

Cast Iron Soil Pipe and Fittings. All 1947 figures are preliminary. Estimate of production intentions for 1948 supplied by Steel Controller, Department of Reconstruction and Supply. Sales refer to shipments reported by producers.

Cast Iron Water Pipe and Fittings. All 1947 figures are preliminary. Sales are shipments as reported by producers.

Steel Pipes and Fittings. This classification includes butt-weld and lap-weld steel pipes and steel fittings; steel tubing is excluded. Data for 1947 are preliminary. Estimate of production intentions for 1948 supplied by Steel Controller, Department of Reconstruction and Supply. Sales refer to shipments reported by producers.

Bath Tubs. All 1947 figures are preliminary. No statistics on a unit basis are available prior to December, 1945. Sales and stocks are those reported by producers.

Sinks. This group comprises flat and roll rim sinks, sink and drainboard combinations and sink and tray combinations. Statistics on a unit basis were not collected prior to December, 1945. Sales and stocks are as reported by producers. All 1947 figures are preliminary.

Wash Basins. All figures for 1947 are preliminary. No statistics on a unit basis are available prior to December, 1945. Sales and stocks are those reported by producers.

Furnaces, Warm Air and Heating Boilers. Warm air furnaces and cast iron sectional hot water and steam domestic heating boilers are included in this classification. Data on production for 1947 are preliminary. Production intentions of warm air furnaces for 1948 were supplied by Co-Ordinator of Building Materials, Department of Reconstruction and Supply. The estimate of production intentions for heating boilers for 1948 is based on a survey of individual producers. Inventory and sales figures are not available.

Cast Iron Radiators. All 1947 figures are preliminary. Sales and stocks are those reported by producers.

Electric Water Heaters. This group comprises electric water heaters of the circulating, the immersion and the storage tank type. Sales refer to shipments as reported by producers. All data for 1947 are preliminary.

Non-Metallic Sheathed Cable (12/2 and 14/2). No statistics are available on a unit basis prior to December, 1945. Sales are producers' shipments. Figures for 1947 are preliminary.

Hot Water Storage Tanks (Range Boilers). Included in this group are galvanized, copper, Everdur and Monel tanks. Sales refer to shipments reported by producers. Figures for 1947 are preliminary.

Common, Colourless Window Glass. Production figures of the sole Canadian producer are not available for release. Estimate of imports for 1948 supplied by the Import Division, Department of Trade and Commerce. Exports are for glass of foreign origin only. Import and export figures for 1947 are preliminary.

Paints, Varnishes and Lacquers. All 1947 data are preliminary. Figures shown as production for 1946–47 are factory sales and for previous years represent selling value at the works. Data for exports and imports cover paints, pigments and varnishes.

Wire Nails and Spikes. This classification includes wire nails of iron or steel. Data for 1947 are preliminary. Sales refer to shipments reported by producers. Stocks at December 31, 1945 and 1947, are estimated from production, sales and other data reported by producers.

Builders' Hardware. Data on production for 1947 are preliminary. No sales or inventory figures are available.

Rigid Insulating Boards. This group comprises panel boards, plaster base boards, roof boards and other rigid boards. Data on production, exports and imports for 1947 are preliminary. No inventory figures are available. Exports are classified as "pulp and fibre wallboards" and have been converted from hundred weights to square feet ½-inch basis to correspond with production data. Imports are classified as "wallboard building board" and have been converted from pounds to square feet ½-inch basis to assure comparability with other data.